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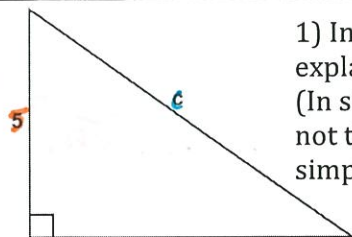
HW87 - Pythagorean part 2 - find the side

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Geometry, Period _____

Due Date: Thu, 22 Jan 2015

Form A

**Geometry
Homework****Find the missing leg.** Failure to show work on all problems or use complete sentences will result in a LaSalle.For radicals that are not perfect squares, write answers in simplified radical form (ex: $\sqrt{45} = \sqrt{9 \cdot 5} = \sqrt{3^2 \cdot 5} = 3\sqrt{5}$... not $\sqrt{45} = 6.708$). You may still want to find the approximation to decide if your answer is reasonable.

1) In the example below, explain each step in words. (In step 5, include whether or not the answer needs to be simplified further and why.)

$$c^2 = a^2 + b^2 \quad \text{(A) First I write the Pythagorean theorem}$$

$$c^2 = 5^2 + 7^2 \quad \text{(B) Next I plug in my values for a and b}$$

$$c^2 = 25 + 49 \quad \text{(C) } \underline{\hspace{2cm}}$$

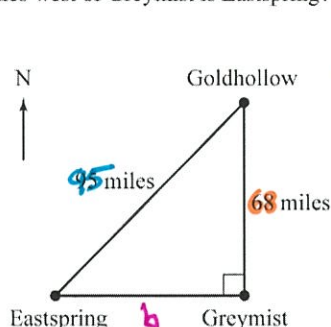
$$c^2 = 74 \quad \text{(D) } \underline{\hspace{2cm}}$$

$$c = \sqrt{74} \quad \text{(E) } \underline{\hspace{2cm}}$$

2)

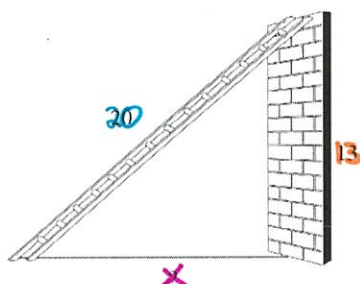
Goldhollow is 68 miles due north of Greymist, Eastspring is due west of Greymist, and the straight-line distance from Eastspring to Goldhollow is 95 miles. The terrain surrounding all three cities is flat and level. About how many miles west of Greymist is Eastspring?

Hmmm... that means I can round!



3)

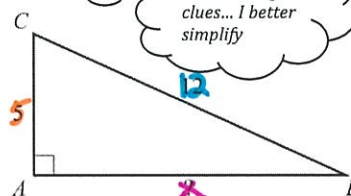
A 20-foot ladder reaches 13 feet up a brick wall, as shown below. What is the distance, to the nearest foot, between the base of the ladder and the base of the wall?



Rounding again!

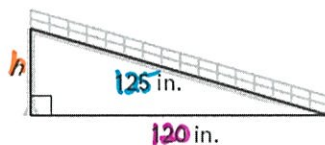
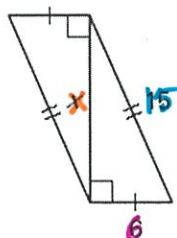
4)

Triangle $\triangle ABC$ is shown in the figure below. How long is AB ?



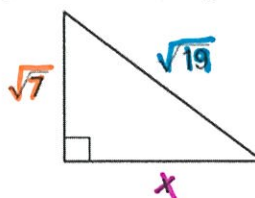
No rounding clues... I better simplify

5) A shipping dock has a mobile ramp that is used to help load and unload cargo from trucks. The ramp is 125 inches long and has a base that is 120 inches long. What is the height h of the ramp?

6) Find the missing interior side length represented by x .

7) Create and solve your own problem that requires you to use the pythagorean theorem.

8) Find the missing side length.

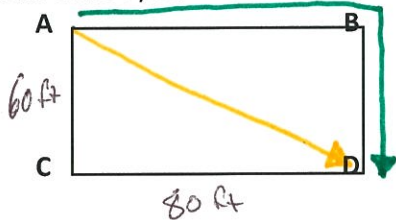


$$c^2 = a^2 + b^2$$

$$(\sqrt{19})^2 = (\sqrt{7})^2 + x^2$$

$$19 = 7 + x^2$$

9) A rectangular field shown below is 60 feet wide and 80 feet long. Jaylin and Joyce are at point A. Jaylin walks to point D by walking along the edge of the field through point B. Joyce walks to point D by walking diagonally across the field. About how many meters more does Jaylin walk than Joyce?

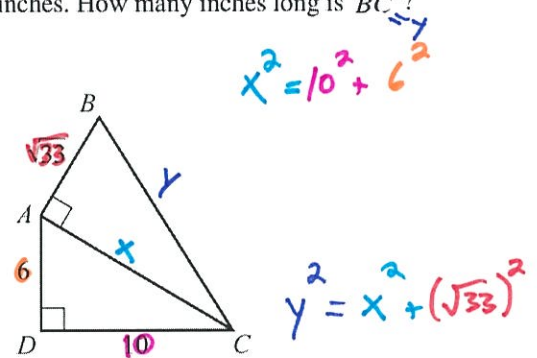


Jaylin walks =

Joyce walks =

10)

In the figure below, right triangles $\triangle ABC$ and $\triangle ACD$ share side \overline{AC} . Also, $AB = \sqrt{33}$ inches, $AD = 6$ inches, and $CD = 10$ inches. How many inches long is \overline{BC} ?



EXPLORATION & REVIEW

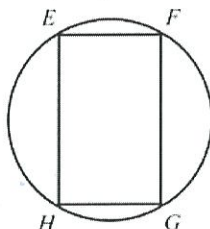
Solve all of the problems. If you are stuck and cannot answer a question, write at least two complete sentences about the problem and what you DO know. Use at least one of the sentence starters below:

- Even though I am stuck, I do know... and I think I should... because...
- I am stuck because I do not know what _____ means. I think it means... so I tried...
- I got _____ as an answer by doing... , but I think it is wrong because...

Remember that you can always use old notes, a dictionary, math textbook, and/or look up topics online!

- What is the equation of the line perpendicular to $y=2x-4$ and passes through the point $(10, 3)$?

- In the figure below, rectangle $EFGH$ is inscribed in a circle. If $EF = 6$ inches and $FG = 10$ inches, then what is the area of the circle, in square inches?



- 6π
- 16π
- 34π
- 68π
- 136π